

Lactose intolerance is the inability to digest foods that contain lactose, the sugar in cow's milk and other dairy products. "It's a complicated process where lactose, or milk sugar, is broken down into two different molecules—glucose and galactose—by an intestinal enzyme called lactase," says Christy Dibble, D.O., Center for Women's Gastroenterology Disorders, Women & Infants' Hospital in Providence, Rhode Island. People who are lactose intolerant do not have sufficient amounts of lactase to break down lactose. "When we talk of lactose intolerance, we really mean lactose malabsorption," says Dr. Dibble. "If it can't be broken down appropriately, it can't be absorbed." Having that unabsorbed sugar in the intestinal tract is what leads to the symptoms.

## A common condition

Approximately 30 to 50 million Americans have some degree of lactose intolerance. Worldwide, lactose intolerance is more the norm than the exception, with almost 75 percent of the world's population having some decrease in the production of the lactase enzyme during adulthood.

"In some ethnic and racial populations, there's a much higher incidence of lactose malabsorption," says Dr. Dibble. The highest incidence is among people of Native American, African, and Asian descent. About 65 to 70 percent of Hispanics and people of southern European descent also are lactose intolerant. The condition is less common among people of northern European descent (only about 5 percent). According to a Cornell University study, those populations that developed the ability to digest lactose are from regions where dairy herds could be raised safely and economically. In places of extreme heat or cold, this was not possible, so people simply stopped producing the lactase enzyme after weaning.

Low intestinal lactase levels can also be caused by injury to the cells that secrete the enzyme that digests lactose. This can be very common with many people experiencing temporary lactose

intolerance after a viral infection of the intestines. In addition, "there are rare developmental processes that cause lactase deficiency, and we can see these in premature infants," says Dr. Dibble. "Apparently the ability to form that enzyme isn't fully mature until infants are over 32 weeks gestation."

## Symptoms and diagnosis

Danielle's symptoms included extreme bloating, gas, and diarrhea. "The pain was unbelievable," she says. "But, it was



milk alternatives, try any of these lactose-free milks:

- ▶ Peanut

When selecting an alternative milk product, read the nutritional label and avoid products that contain a lot of added sugar. These plant-based milks are becoming more widely available in grocery stores, or you can easily make your own.

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obvious to me that it was lactose intolerance because my mother had it also," she says. According to Dr. Dibble, symptoms like Danielle's are common. "What happens is the lactose molecules sit in the colon and are impacted by bacteria and become hydrogen gas," says Dr. Dibble. That gas is what causes the bloating, flatulence, cramping, and diarrhea.

Because these symptoms are common to a number of other conditions, including irritable bowel syndrome and Crohn's disease, it's important to see your doctor

to get an accurate diagnosis. Testing for lactose intolerance is done with a lactose breath hydrogen test, which measures the level of lactose malabsorption. "It's a simple, noninvasive, and very sensitive test," says Dr. Dibble.

## Living with lactose intolerance

Lactose intolerance is not life threatening, but it can be challenging. "I don't put anything in my mouth anymore without thinking, 'What's in it?'" says Danielle. "You just have to stay vigilant—reading package labels and asking about ingredients when eating out." Fortunately, there are a variety of ways to manage living with lactose intolerance. Danielle manages her condition by taking replacement lactase enzyme supplements before eating any dairy products. She also buys lactose-free milk, cheese, and ice cream whenever possible.

Dr. Dibble recommends taking lactose-containing probiotics, which include many of the live active cultures found in yogurt. "Also, consuming small, frequent amounts of lactose is fairly well tolerated by most patients, because the bacterial flora in the colon will actually propagate, aid in digestion, and become more tolerant," she adds.

Another reasonable approach is to avoid milk and dairy, making sure to get enough protein, calcium, vitamin A, and vitamin D through other nutritional sources. "There are so many wonderful foods that are rich in calcium, such as dark, leafy greens, broccoli, nuts, sesame, fish, avocados, and fruits such as figs and prunes," says Hannah Marcotti, Nutritional Health Counselor.

Your body cannot absorb calcium without vitamin D, which is added to milk after the pasteurization process. Food sources of vitamin D include salmon, mackerel, and tuna, as well as some brands of orange juice. If you think you're not getting enough vitamin D, talk to your doctor at your next checkup.

The amount of lactose that can be tolerated varies considerably from person to person. The key is finding what works best for you.